

NiceZyme View of ENZYME: EC 3.2.1.10

Official Name

Oligo-1,6-glucosidase.

Alternative Name(s)

Isomaltase.

Oligosaccharide alpha-1,6-glucosidase.

Sucrase-isomaltase.

Reaction catalysed

Hydrolysis of 1,6-alpha-D-glucosidic linkages in some oligosaccharides produced from starch and glycogen by EC 3.2.1.1 (alpha-amylase), and in isomaltose

Comment(s)

- This enzyme, like EC 3.2.1.33, can release an alpha-1->6-linked glucose, whereas the shortest chain that can be released by EC 3.2.1.41, EC 3.2.1.142, and EC 3.2.1.68 is maltose.
- It also hydrolyzes isomaltulose (palatinose), isomaltotriose and panose, but has no action on glycogen or phosphorylase limit dextrin.
- The enzyme from intestinal mucosa is a single polypeptide chain that also catalyzes the reaction of EC 3.2.1.48.
- Differs from EC 3.2.1.33 in its preference for short-chain substrates and in its not requiring the 6-glucosylated residue to be at a branch point, i.e. linked at both C-1 and C-4.

Human Genetic Disease(s)

Disaccharide
intolerance I MIM:222900

Cross-references

PROSITE PDOC00120

BRENDA 3.2.1.10

PUMA2 3.2.1.10

PRIAM enzyme-
specific profiles 3.2.1.10

Kyoto University
LIGAND chemical
database 3.2.1.10

IUBMB Enzyme 3.2.1.10